

REMARKS

Claims 1, 4, 6-9, 11, 12, 14-21, 25-29, 32-38, 41-49, 52, 53 and 55-59 are presently under consideration. Claim 21 has been amended as shown on pp. 2-13 of the Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Allowability of Claims 49, 52, 53 and 55-59

Applicants' representative thanks Examiner Dean for his indication that each of claims 49, 52, 53 and 55-59 recites allowable subject matter.

II. Rejection of Claim 21 Under 35 U.S.C §112

Claim 21 stands rejected under 35 U.S.C §112, second paragraph, as allegedly indefinite. In this regard, claim 21 has been amended to correct the cited minor informalities. Therefore, Applicants' representative requests that the rejection be withdrawn and that amended independent claim 21 be allowed.

III. Rejection of Claims 1, 4, 6-9, 11, 12, 14, 38 and 41-44 and 48 Under 35 U.S.C. §103(a)

Claims 1, 4, 6-9, 11, 12, 14, 38 and 41-44 and 48 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Patterson, et al. (US 2003/0050008) in view of Lapaille, et al. (US 6,539,214) and in further view of Dai, et al (US 2004/0127158). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Patterson, et al., Lapaille, et al., and Dai, et al., alone or in combination, do not teach or suggest each and every element of claims 1, 4, 6-9, 11, 12, 14, 38 and 41-44 and 48.

By way of general background, the subject application relates to compensating for noise in a reverse link of a satellite communications system without changing an interference relationship among a plurality of terminals employing the return link. More particularly, a data rate can be adjusted and transmission power levels can remain unchanged, wherein a signal to noise ratio can be employed as a measure of the quality of the return link signal and used as a metric for determining how to adjust the data rate to compensate for changes in the link conditions. This metric can be communicated to the terminals by the gateway, and the terminals

can then determine how to allocate resources based at least in part on the information of the metric. To these and related ends, independent claim 1, recites, in part “*adjusting a data rate, at the terminal, based, in part, on a determination made at the terminal to adjust the data rate to correct for degradation of the return link signal quality, for a message sent from the terminal through the return link based on the change in the return link signal quality, without changing link power levels and an interference relationship among the plurality of terminals, wherein the identifying the change in the return link signal and the adjusting the data rate are performed during a transmission of and a reception of the message.*” Independent claims 21 and 38 recite similar, but not identical, features. Patterson, et al., Lapaille, et al., and Dai, et al., alone or in combination, do not teach or suggest at least these novel features.

Rather, Patterson, et al. (hereinafter “Patterson”) relates to a scalable satellite data communications system that provides global broadband services to earth-fixed cells. Patterson merely discloses a system that includes a user terminal segment and a gateway segment in the earth-fixed cells, and a space segment that includes satellites. The satellites are configured to provide communication of data between the user terminals in the user terminal segment and their associated gateway terminals in the gateway segment. One or more user terminals simultaneously transmit over a reverse link to their respective gateways via a satellite (See Abstract and ¶ [0008] – [0013] and [0095] – [0100] of Patterson). In contrast with the subject application, Patterson discloses that *only the gateway transmits over the forward link, and transmits to the user terminals via the satellite*. In addition, Patterson states that the Gateway allocates the resources (See ¶ [0100]-[0101] of Patterson). This is clearly distinguishable from *the terminal allocating the resources based on a determination related to the metric information*, as recited in independent claim 1. Moreover, Patterson discloses a system in which the gateway and the user terminal adjust the data rate over more than one time slot and employ more than one message. The user terminal transmits a first message in a first time slot, and the gateway receives the first message. The gateway then adjusts the data rate after receipt of the first message, and transmits data rate information to the user terminal. The user terminal then adjusts its data rate during a subsequent time slot during which a second message is transmitted (See ¶ [0101] of Patterson). Accordingly, Patterson discloses that the transmitter and receiver operations to adjust the data rate occur during the transmission of different messages, and not a single message, as recited in independent claim 1. Therefore, Patterson is silent regarding at

least these novel features.

The Office Action, cites Lapaille, et al. (hereinafter “Lapaille”) to make-up for the aforementioned deficiencies of Patterson. However, Lapaille does not cure the deficiencies of Patterson with respect to independent claims 1, 21 and 38. Lapaille merely relates to a method of estimating a signal-to-noise ratio of a signal received at a terminal (See Col. 2, lns. 50-55 of Lapaille). In particular, Lapaille discloses a method for adjusting transmission power of a terminal based on an estimated signal-to-noise ratio (See Col. 2, ln. 55 – Col. 4, ln. 29). In addition, the cited sections of Lapaille, merely disclose that in order to satisfy minimal communications requirements the signal-to-noise ratio is maintained at a level greater than a predetermined value (See Col. 1, lns. 31-40 of Lapaille), and that the signal-to-noise ratio is maintained by adjusting the transmission power (See Col. 5, lns. 45-52 of Lapaille). Clearly, this does not establish *“adjusting a data rate, at the terminal, based, in part, on a determination made at the terminal to adjust the data rate to correct for degradation of the return link signal quality, for a message sent from the terminal through the return link based on the change in the return link signal quality, without changing link power levels and an interference relationship among the plurality of terminals, wherein the identifying the change in the return link signal and the adjusting the data rate are performed during a transmission of and a reception of the message,”* as recited in independent claim 1. Therefore, Patterson and Lapaille, alone or in combination, are silent regarding at least these novel features.

Additionally, the Office Action cites Dai, et al. (hereinafter “Dai”) attempting to cure the aforementioned deficiencies of Patterson and Lapaille. However, Dai does not make up for the deficiencies of Patterson and Lapaille with respect to independent claims 1, 21 and 38, as follows. Dai relates to a system having a fallback mode of operation, during which uplink signals are transmitted at a reduced data rate (See Abstract and ¶ [0007] of Dai). More particularly, the system includes a processor that switches into and out-of the fallback mode based on the signal-to-noise ratio of a satellite beacon signal (See ¶ [0025] of Dai). Clearly, this does not establish *“adjusting a data rate, at the terminal, based, in part, on a determination made at the terminal to adjust the data rate to correct for degradation of the return link signal quality, for a message sent from the terminal through the return link based on the change in the return link signal quality, without changing link power levels and an interference relationship among the plurality of terminals, wherein the identifying the change in the return*

link signal and the adjusting the data rate are performed during a transmission of and a reception of the message,” as recited in independent claim 1.

In view of at least the foregoing discussion, applicants’ representative respectfully submits that Patterson, Lapaille, and Dai, alone or in combination fail to teach or suggest all the novel features recited in the independent claims 1, 21 and 38 (and the claims that depend therefrom). Accordingly, withdrawal of this rejection is respectfully requested.

IV. Rejection of Claims 17 Under 35 U.S.C. §103(a)

Claim 17 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Patterson (US 2003/0050008) in view of Lapaille (US 6,539,214) in view of Dai (US 2004/0127158) and in further view of Hogberg, et al. (US 6,198,780). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Patterson, Lapaille, Dai, and Hogberg, et al., alone or in combination, do not teach or suggest each and every element of claim 17.

Claim 17 depends from independent claim 1. The Office Action cites Hogberg, et al. (hereinafter “Hogberg”) as allegedly disclosing a messaging time slot among a plurality of time slots in each of a series of time frames, including initiating the message at a random point within a particular messaging time slot. However, Hogberg does not cure the deficiencies of Patterson, Lapaille, and Dai noted above with respect to independent claims 1 and 21.

Therefore, the proposed combination of Patterson, Lapaille, Dai, and Hogberg cannot and does not teach or suggest each and every element of independent claim 1 (or claim 17 depending from claim 1). Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

V. Rejection of Claims 15-16, 18-20 and 45-47 Under 35 U.S.C. §103(a)

Claim 15-16, 18-20 and 45-47 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Patterson (US 2003/0050008) in view of Lapaille (US 6,539,214) in view of Dai (US 2004/0127158) and in further view of Xie, et al. (US 6,781,978). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Patterson, Lapaille, Dai, and Xie, et al., alone or in combination, do not teach or suggest each and every element of claim 15-16, 18-20 and 45-47.

Claims 15-16 and 18-20 depend from independent claim 1, and claims 45-47 depend from independent claim 38. The Office Action cites Xie, et al. (hereinafter "Xie") as allegedly disclosing the feature of suspending a message if a current messaging time slot in a current time frame expires before the message is complete; and returning the message in a subsequent messaging time slot in a subsequent time frame. However, Xie does not cure the deficiencies of Patterson, Lapaille, and Dai noted above with respect to independent claims 1 and 38.

Therefore, the proposed combination of Patterson, Lapaille, Dai, and Xie cannot and does not teach or suggest each and every element of independent claim 1 and 38 (or claim 15-16, 18-20 that depend from claim 1 and claims 45-47 that depend from claim 38). Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [QUALP802USA].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution; the Examiner is invited to contact Applicants' representative at the telephone number below.

Respectfully submitted,
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